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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/545,685	04/07/2000	Norman Krause	00113	2090

7590 06/07/2002

THE PATENT GROUP
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EXAMINER

LIN, JEOYUH

ART UNIT

PAPER NUMBER

3737

DATE MAILED: 06/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/545,685

Applicant(s)

KRAUSE ET AL.

Examiner

Jeoyuh Lin

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 31-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 31-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,7,8,9 6) ☐ Other:

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DETAILED ACTION

Entry of Amendment

1. Applicant's amendment, filed on February 21, 2002, as paper No. 8, is acknowledged. Claims 1-10 and 31-40 are currently pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

-Claims 1-10 and 31-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Gueziec et al. (US 5,951,475)

Gueziec teaches a method of registering a 3D model onto multiple fluoroscopic images, comprising the following features:

- Extracting bone contour from 2D X-ray images. (Column 5, line 58 and column 8, lines 10-15)
- Creating a 3D- bone model. (Column 8, line 5-10)
- Determine 3-D silhouette curves on the model that fit the contour of the 2D- image contour, and vice versa. (Column 8, line 20-25)

- Performing and repeating a matching process, which includes adjusting the size and position of the model (through coordinate matching and rotation matrix (Columns 15 and 16) until the two data converge, so that their differences are minimized. (Column 8, lines 25-28 and column 26, lines 1-15 and lines 53-65)
- Creating a surgical plan from the model. (Column 7, lines 15-37 and column 24, lines 31-37)

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Moshfeghi (US 5,633,951) teaches a 3-D image registration method, comprising 2 3-D volume deformation.

-Adler et al. (US 6,028,907) teaches a method of 3-D geometric model creation, comprising the step of merging 2 2-D contours.

-Cyr et al. teaches a method of 2-D-3-D registration based on shape matching and projection of 3-D image to plane. However, it fails to teach a model-deforming step.

-Jacq et al. teaches a method for comparing 3-D images with 3-D models. However, it fails to teach 2-D image forming with a 3-D model.

-Tonet et al. teaches a navigation system, comprising the segmentation of 2-D images onto 3-D images.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeoyuh Lin whose telephone number is (703) 306-5990. The examiner can normally be reached on m-f, 8:30-6:00.

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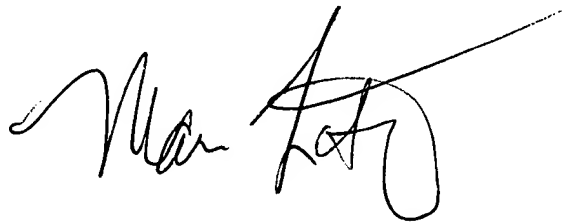
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on (703) 308-3256. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-0758 for regular communications and (703) 308-0758 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

JYL

JYL

June 2, 2002

A handwritten signature in black ink, appearing to read 'Marvin Lateef', with a long horizontal line extending from the end of the signature.

Marvin M. Lateef
Supervisory Patent Examiner
Group 3700